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cc:

Subject: Effect of controls at MR Young Station on PSD Class 1 increment

I reran North Dakota's original PSD increment modeling analysis to estimate the effect of emission reductions at Milton R Young Station on the Class1 areas in ND and MT where violations of the SO2 increment have been predicted. This analysis relied on North Dakota's assumption that MRY emitted "allowable emissions" of 37,791 tons per year in the 1977-1978 baseline period. The only emission changes at MRY in subsequent years that would consume PSD increment are those exceeding this level. Conversely, only emission reductions greater than 37791 tons/year would expand, or increase, the amount of available PSD increment. An emission limit of 0.10 lbs/MMBTU SO2 for both units at MRY would result in an a reduction in allowable emissions of 53,000 tons/year. A reduction of 53,000 tons/year would provide 15,214 ton/year of increment expanding emissions. Thus, the results in the attached table reflect MRY SO2 increment expansion "credits" of 15,214 ton/year.

Because I used North Dakota modeling assumption concerning MRY emissions, the results probably underestimate the increment benefits MRY controls would have. CEM data for MRY shows that the facilities actual emissions exceeded the stated allowable emissions in recent years, while other information indicate that 1977-1978 baseline emissions may have been overestimated. EPA will be reanalyizing the Class 1 increment in North Dakota using updated information on MRY and other major sources later this year. If necessary, I can rerun the effect of MRY controls at that time.

The attached table shows that both the number of violations and PSD increment concentrations are reduced in all 4 Class 1 areas. Because existing violations are not as severe at Medicine Lake Wilderness and Ft. Peck Reservation, the MRY reductions provide relatively large improvements in these areas. The MRY reductions did not completely mitigate the violations in these areas. However, additional SO2 emission reductions (beyond the 15,214 tons modeled) from MRY or other nearby source of 1700 tons/year would eliminate the PSD violations at MLWA, while an additional 8500 tons would eliminate violations at FPIA.

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Table 1. Calpuff modeling analysis showing the effect of feasible SO2 reductions at Milton R Young Station on 24-hour average PSD exceedences in 4 Class 1 areas.

PSD Class 1 Area	Original Modeling Results[1] (ug/m3)			Results with MRY Controlled (ug/m3)[2]		
	24 hr high	24 hr 2nd high	Number Exceeds	24 hr high	24 hr 2nd high	Number Exceeds
T. Roosevelt Natl Park, ND	17.2	12.4	19	16.3	11.4	17
Lostwood Wilderness, ND	8.3	7.2	7	7.2	5.8	6
Medicine Lake W A, MT	9.1	6.0	3	7.8	5.1	2[3]
Fort Peck Reservation, MT	11.0	6.4	3	10.5	5.5	2[4]

1. Data extracted from North Dakota Dept Health 5/24/99 Calpuff modeling analysis of PSD Class 1 increment consumption. Results reflect ND's assumption that MRY Station currently has no increment consuming emissions (i.e. MRY is a baseline source).
2.Both units at MRY assumed controlled to 0.1 lbs/MMBTU SO2. Increment is expanded (i.e.created) due to emission reductions of 15,214 tons/year below 1978 baseline levels.
3. Additional emission reductions of 1700 tons/year from MRY or other nearby source would eliminate the PSD Class 1 violation at MLWA .
4.Additional emission reductions of 8500 tons from MRY or other nearby source would eliminate the PSD Class 1 violations at FPR.